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## 8. Rectangles

**Program Name:** Rectangles.java

**Input File:** rectangles.dat

Given two rectangles and a point in two dimensional space, determine if the point is strictly inside the area of intersection of the two rectangles. If the point is on the perimeter, then it is not strictly inside the intersectional area.

The rectangles are oriented such that their sides are parallel to the x- and y-axes, hence they can be uniquely specified by the coordinates of the upper left corner and the coordinates of the lower right corner. First determine if the two rectangles at all intersect, that is the area of intersection has to be greater than zero. If the two rectangles share a side or a point and the area of intersection is zero, then they do not intersect. If they do intersect, determine the location of the intersection area. Then determine if the given point is inside that intersection area. The two rectangles may partially overlap, one's area may be completely encompassed by the other, or they may be totally disjoint.

### Input

The first line in the input file will consist of a single integer  $n$ , the number of datasets to follow.

Each dataset will be on a line by itself. Each will consist of 10 floating point numbers, separated by one or more spaces, which are arranged as follows: the x- and y-coordinates of the upper left corner and the lower right corner of the first rectangle, the x- and y-coordinates of the upper left corner and lower right corner of the second rectangle, and the x- and y-coordinates of the point in question.

### Constraints

$1 \leq n \leq 10$

### Output

For each data set, output YES if the given point falls within the intersection area of the two given rectangles. Output NO if it does not.

### Example Input File

2

-3.2 1.5 4.7 -2.8 -2.4 7.3 8.5 -1.6 1.1 0.8  
-17.4 9.8 -5.2 3.6 -11.3 7.1 12.4 0.6 -2.5 4.3

### Example Output to Screen

YES  
NO